

What is claimed is:

1. A color filter composition, comprising:

a mixture of a binder and a monomer in a predetermined ratio;

5 a pigment; and

a solvent.

2. The color filter composition as recited in claim 1, wherein the

predetermined ratio is a ratio of the binder to the monomer and ranges from about 50:50

10 to about 60:40.

3. The color filter composition as recited in claim 1, wherein the pigment is at

least one of a red pigment, a green pigment and a blue pigment.

15 4. The color filter composition as recited in claim 1, wherein the pigment

includes a mixture of a plurality of pigments, each pigment of the plurality of pigments

having a different color index.

5. The color filter composition as recited in claim 1, further comprising a solid

20 powder having a weight percent in the color filter composition ranging from about 12%

to about 18%, wherein the solid powder includes the pigment.

6. The color filter composition as recited in claim 5, wherein the pigment has a weight percent in the solid powder ranging from about 28% to about 38%.

7. The color filter composition as recited in claim 1, wherein a viscosity of the
5 color filter composition ranges from about 3.3 mPa·s to about 4.1 mPa·s at about 25°C.

8. The color filter composition as recited in claim 1, further comprising a black material for forming a black matrix.

10 9. The color filter composition as recited in claim 1, wherein the color filter composition is coated on a substrate using a slit coating process.

10. A color filter composition, comprising:

a solvent; and

15 a solid powder having a weight percent in the color filter composition ranging from about 12% to about 18%.

11. The color filter composition as recited in claim 10, wherein the solid powder includes a pigment having a weight percent in the solid powder ranging from
20 about 28% to about 38%.

12. The color filter composition as recited in claim 11, wherein the pigment is at least one of a red pigment, a green pigment and a blue pigment.

13. The color filter composition as recited in claim 10, further comprising:
 - a binder; and
 - a monomer, wherein a ratio of the binder to the monomer ranges from about 50:50 to about 60:40.
14. A method of manufacturing a color filter, comprising:
 - forming a color filter composition, wherein the color filter composition includes a solid powder having a weight percent in the color filter composition ranging from about 12% to about 18%;
 - coating the color filter composition on a substrate to form a color filter thin film; and
 - patterning the color filter thin film to form a color filter on the substrate.
15. The method as recited in claim 14, wherein the solid powder includes a pigment having a weight percent in the solid powder ranging from about 28% to about 38%.
16. The method as recited in claim 15, wherein the pigment is at least one of a red pigment, a green pigment and a blue pigment.

17. The method as recited in claim 15, wherein the pigment includes a mixture of a plurality of pigments, each pigment of the plurality of pigments having a different color index.

5 18. The method as recited in claim 14, wherein the color filter composition further includes a binder, and a monomer, wherein a ratio of the binder to the monomer ranges from about 50:50 to about 60:40.

10 19. The method as recited in claim 14, wherein the substrate remains in a predetermined location while the color filter composition is coated thereon.

20. The method as recited in claim 14, wherein the color filter composition is coated on the substrate using a slit coating process.

15 21. The method as recited in claim 14, wherein the color filter composition further includes a solvent, the solvent being dried after the color filter composition is coated on the substrate.

20 22. The method as recited in claim 14, wherein the color filter thin film is patterned using at least one of a photo process and a photolithography process.

23. The method as recited in claim 14, wherein a viscosity of the color filter composition ranges from about 3.3 mPa·s to about 4.1 mPa·s at about 25°C.

24. The method as recited in claim 14, wherein the color filter composition further includes a black material for forming a black matrix.

5 25. An apparatus for manufacturing a color filter, comprising:
 a supply unit for storing a color filter composition;
 a slit coater for discharging through a slit the color filter composition provided from the supply unit onto a surface of a substrate; and
 a transfer unit for moving the slit coater over the surface of the substrate
10 while discharging the color filter composition.

26. The apparatus as recited in claim 25, further comprising a transfer pipe positioned between the supply unit and the slit coater, wherein the transfer pipe carries the color filter composition from the supply unit to the slit coater.

15 27. The apparatus as recited in claim 25, further comprising a bubble removing unit positioned between the supply unit and the slit coater for removing gas bubbles from the color filter composition.

20 28. The apparatus as recited in claim 25, wherein the color filter composition includes a solid powder having a weight percent in the color filter composition ranging from about 12% to about 18%.

29. The apparatus as recited in claim 28, wherein the solid powder includes a pigment having a weight percent in the solid powder ranging from about 28% to about 38%.

5 30. The apparatus as recited in claim 25, wherein the color filter composition includes a binder, and a monomer, wherein a ratio of the binder to the monomer ranges from about 50:50 to about 60:40.

10 31. The apparatus as recited in claim 25, wherein the substrate remains in a predetermined position during discharge of the color filter composition.

32. A color filter composition, comprising:

a binder;

a monomer;

15 a dispersant; and

at least one of a filling, a surfactant, an adhesion accelerant, an antioxidant, an ultraviolet absorbent, and an adhesion initiator.